

Figure 1

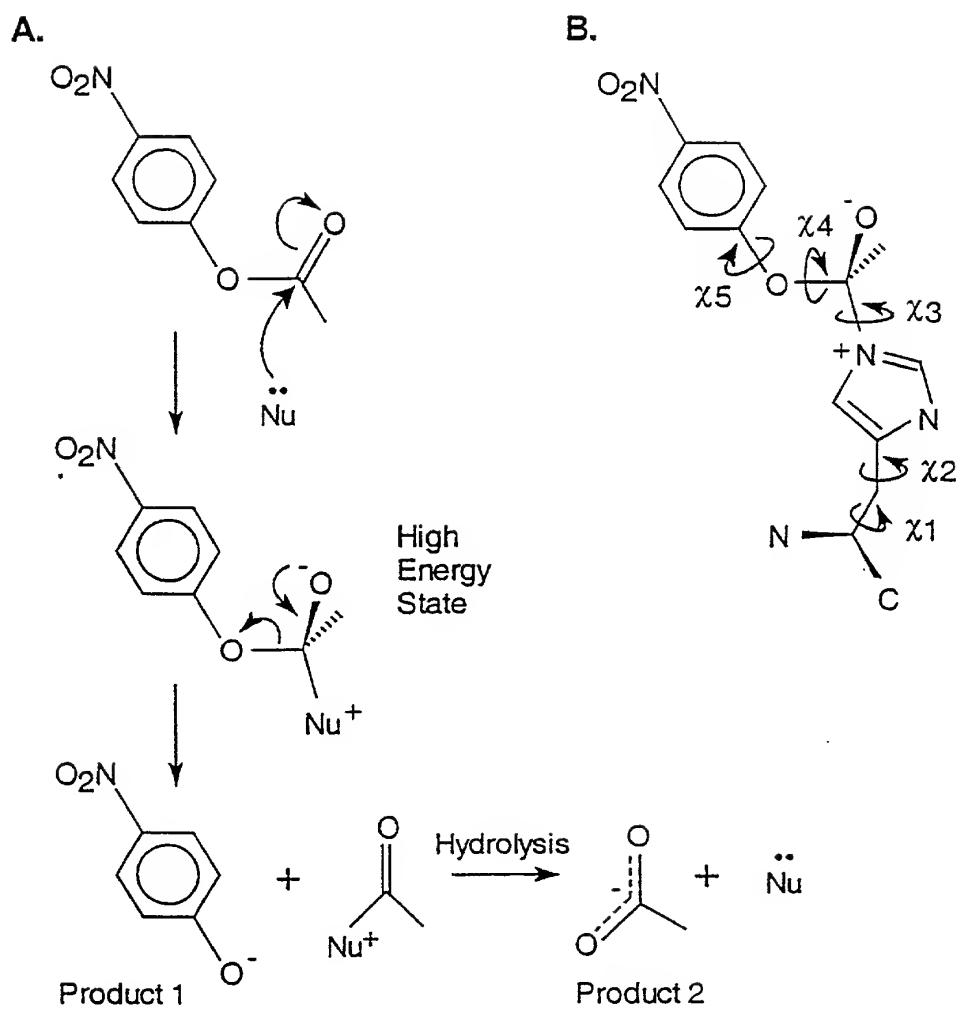
PROVIDE SCAFFOLD PROTEIN BACKBONE STRUCTURE

ESTABLISH POSITION IN BACKBONE FOR HIGH ENERGY STATE ROTAMERS

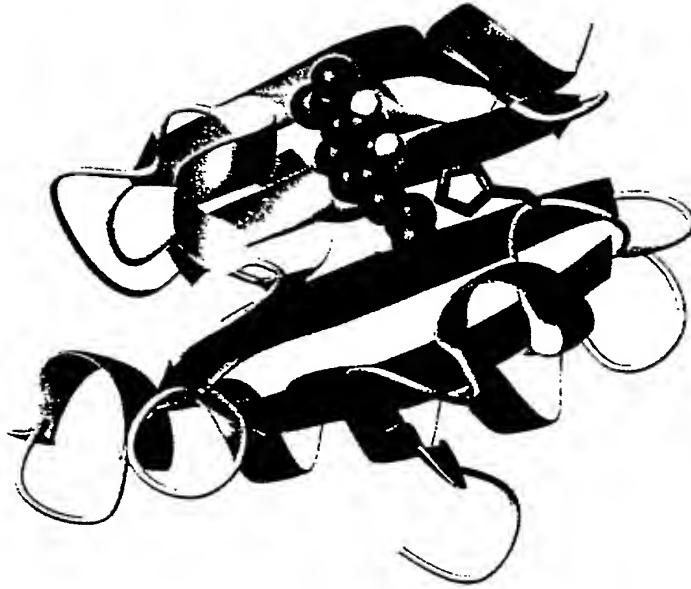
ANALYZE INTERACTION OF HIGH ENERGY STATE ROTAMERS WITH PROTEIN  
SCAFFOLD TO GENERATE PRIMARY LIBRARY OF VARIANT SEQUENCES WITH  
PUTATIVE ENZYME-LIKE ACTIVITY

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Figure  
2



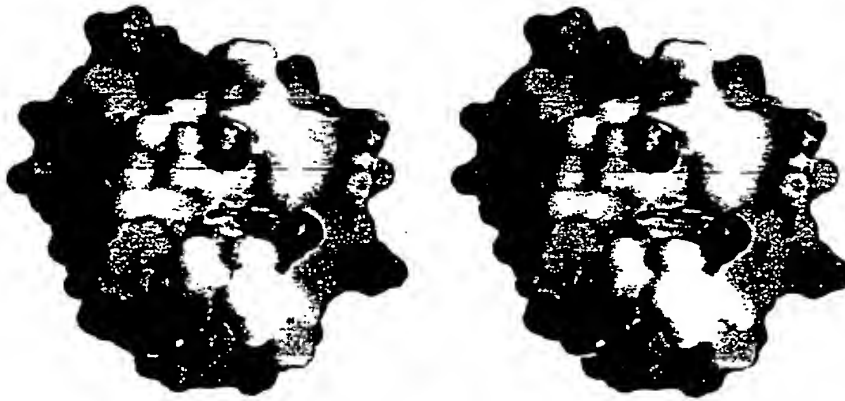
**PLATE 1**



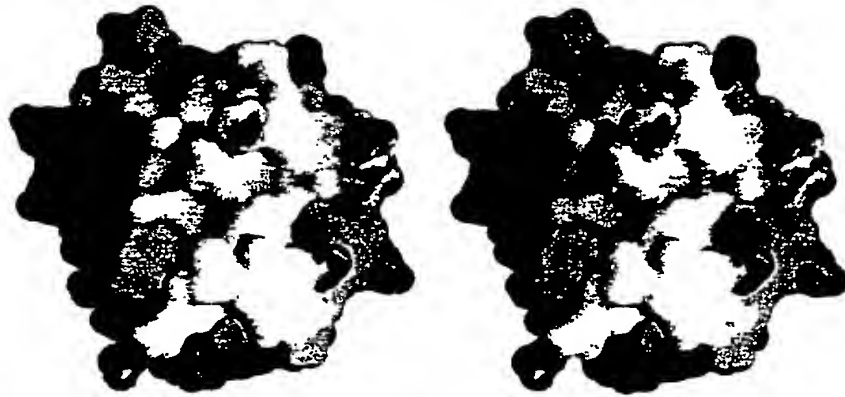
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Figure  
4

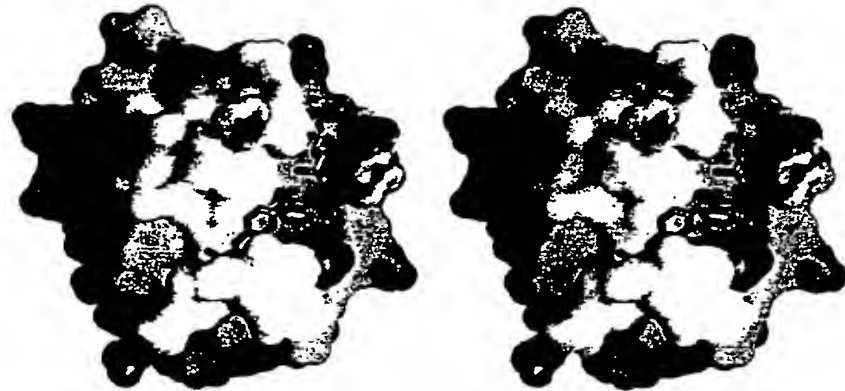
A.



B.

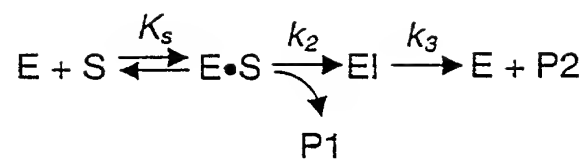


C.



10074679.021106

Figure  
5



$$v = \frac{k_{\text{cat}} [\text{E}] [\text{S}]}{K_m + [\text{S}]}$$

$$k_{\text{cat}} = \frac{k_2 k_3}{k_2 + k_3}$$

$$K_m = \frac{K_s k_3}{k_2 + k_3}$$

Figure  
6

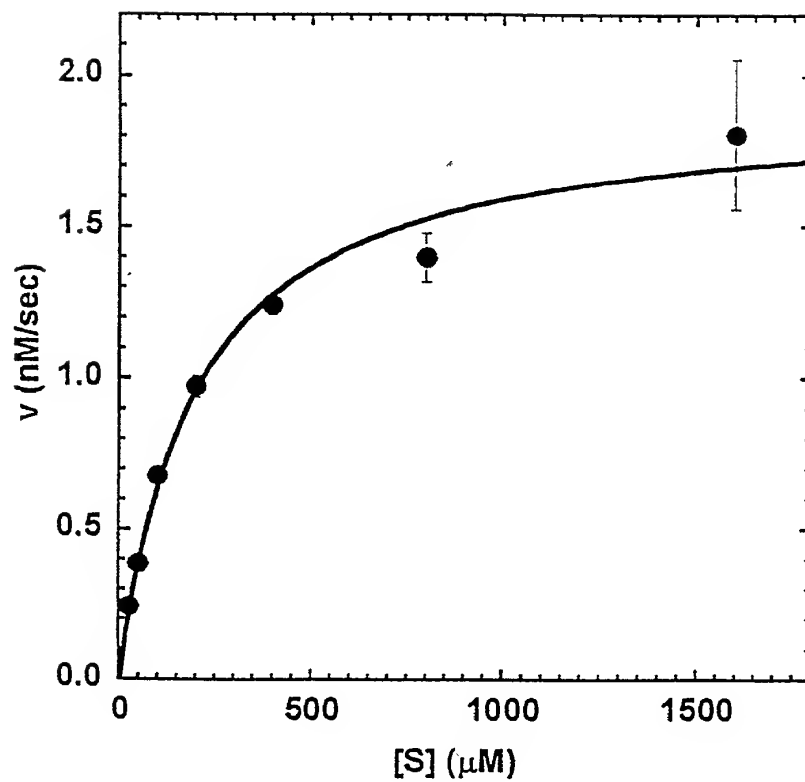


Figure  
7

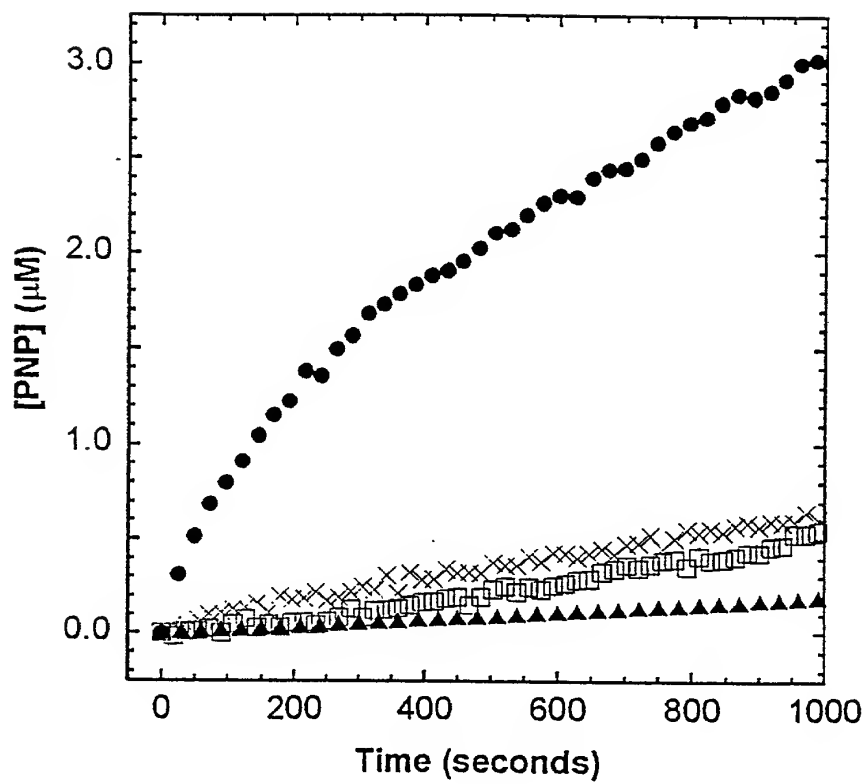


Figure  
8

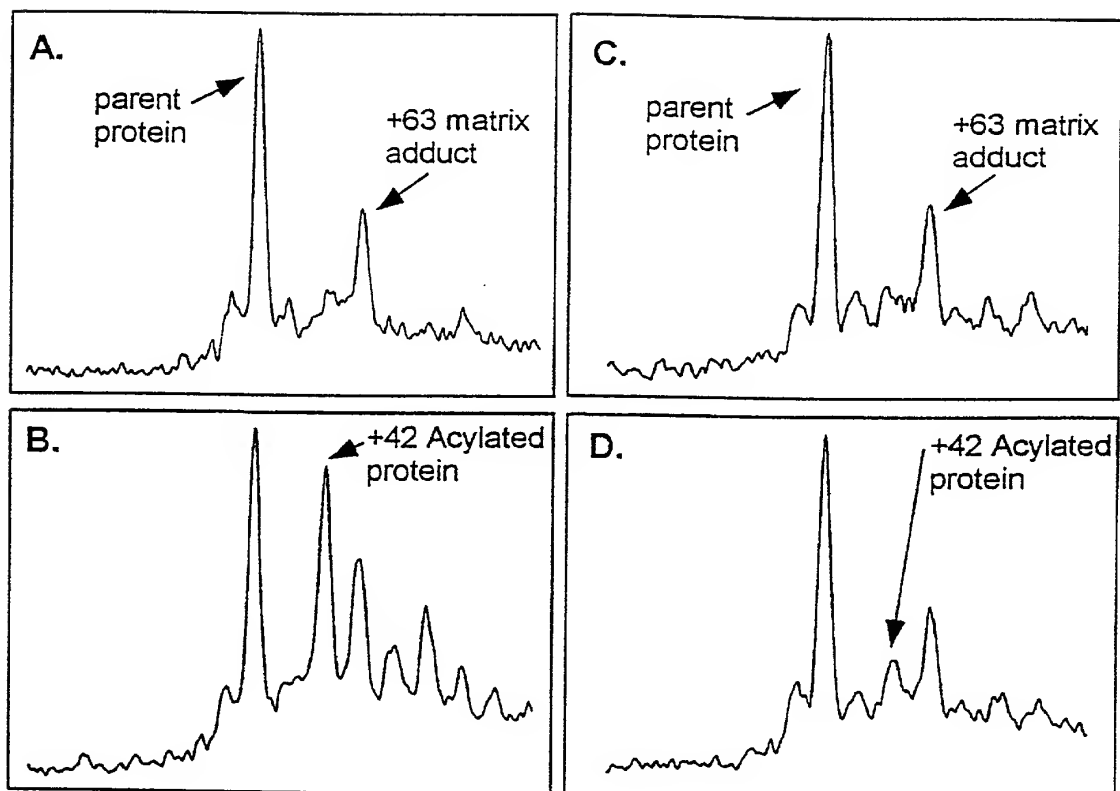




Figure  
9

